

No. 717,304.

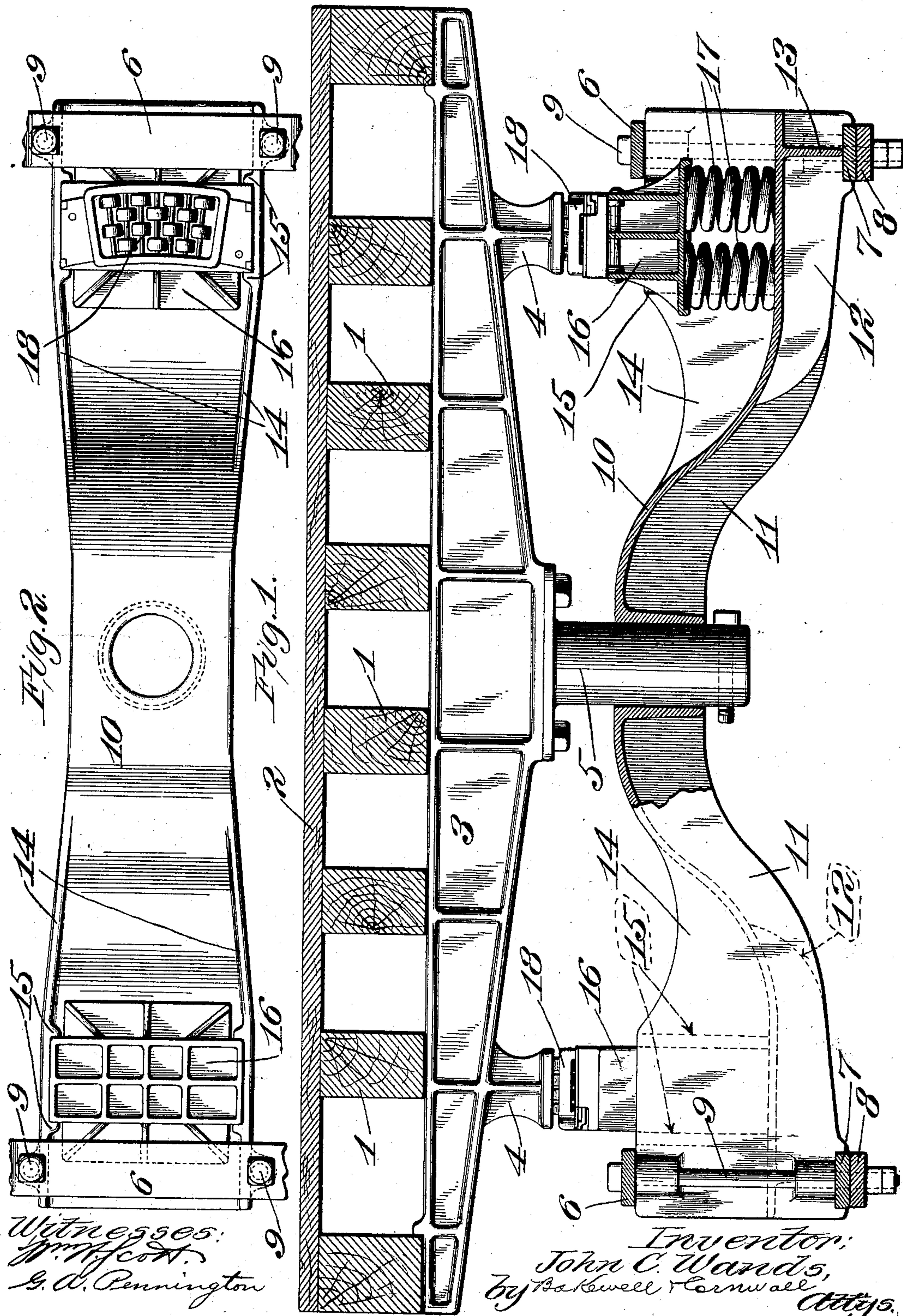
Patented Dec. 30, 1902.

J. C. WANDS.
CAR TRUCK.

(Application filed June 4, 1902.)

(No Model.)

2 Sheets—Sheet 1.



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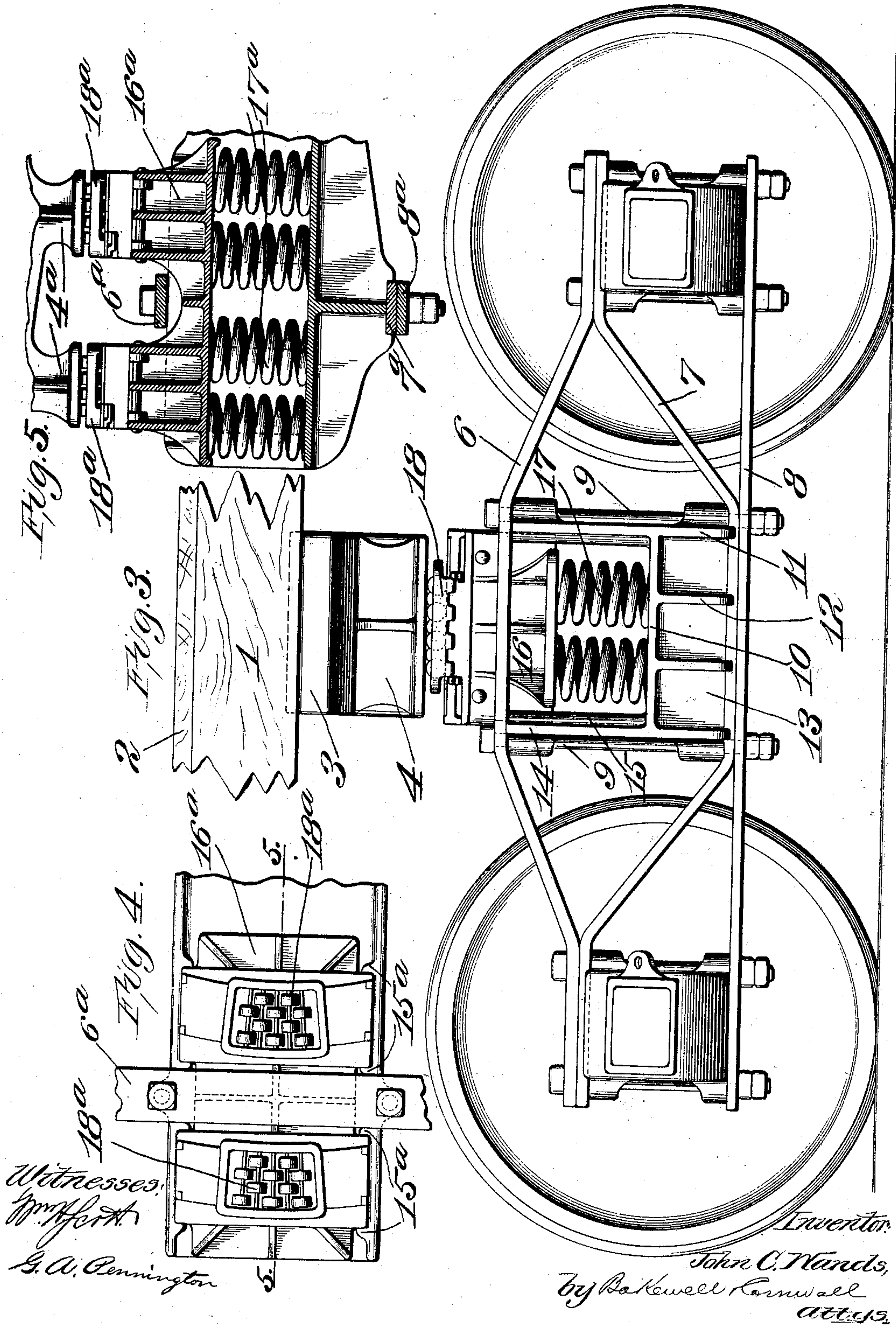
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2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF ST. LOUIS, MISSOURI.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 717,304, dated December 30, 1902.

Application filed June 4, 1902. Serial No. 110,167. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. WANDS, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Car-Trucks, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a cross-sectional view showing my improved car-truck in position under a car. Fig. 2 is a top plan view of the truck-transom. Fig. 3 is a side elevational view of the truck. Fig. 4 is a top plan view of a modified form of the carrier for the side bearings, and Fig. 5 is a sectional view on line 5 5 of Fig. 4.

This invention relates to a new and useful improvement in trucks designed especially for the rolling-stock of railways, the object being to carry the weight of the car-body and its contents on frictionless side bearings, thus relieving the truck-transom of the weight usually imposed thereon about its center through the center plate.

My invention consists in the construction, arrangement, and combination of the several parts, all as will hereinafter be described, and afterward pointed out in the claims.

In the drawings, 1 indicates the longitudinal sills of a car-underframing, and 2 the floor supported thereby.

3 represents the body bolster or transom, which is preferably made of cast-steel and is provided with bearing members 4, usually designated as the "upper side-bearing" members. Depending from this body-transom is a cylindrical projection 5, which answers the function of a king-bolt and is the pivot upon which the truck turns when the car is making a curve.

6 indicates the top arch-bars of the truck, 7 the lower arch-bars, and 8 the tie-bars, of well-known construction. The wheels, axles, and journal-boxes may be mounted, as usual, in the truck side frames.

9 indicates the column-bolts, which secure the arch and tie bars together and also hold the truck transom or bolster in position.

The truck transom or bolster is shown more

clearly in Figs. 1 and 2 and consists of a casting, preferably of steel, extending from side to side of the truck, said casting being formed with an opening about its middle to receive the pivot projection 5. This transom is made up essentially of a horizontal web 10, which is curved or arched in its center, as shown, depending flanges 11 being arranged at each side thereof, which flanges at their ends are formed with seats for the bottom arch-bar. Reinforcing-flanges 12 are arranged under the ends of the horizontal web 10 in order to strengthen the spring-seats afforded by said web at the ends of the transom. A vertical web 13 is also arranged at the ends of the transom above the bottom arch-bar for well-understood purposes.

14 indicates vertical webs extending upwardly from each side and at the ends of the truck-transom, which vertical webs afford seats for the top arch-bar. The interior faces of these vertical webs are formed with vertical ribs 15, which serve as guiding-flanges for a vertically-movable casting 16. Casting 16 is composed of a horizontal bottom plate, forming a spring-seat for springs 17, the upper face of said casting being flanged and reinforced by the webs, so as to support an antifriction side bearing 18, preferably at a point above the horizontal plane of the top arch-bar 6. The construction of this antifriction side bearing member 18 is preferably similar to that shown in United States Letters Patent No. 590,286, granted to me September 21, 1897. There is a spring-supported casting 16 at each end of the truck-transom, so that the antifriction side bearings carried thereby cooperate with the bearing members 4 of the body-transom, and in this manner the car-body is supported practically at its four corners.

From the above it is obvious that the truck-transom can be made exceedingly light, as the point where the load is applied is removed from the center thereof, as is now generally practiced, and placed near each end thereof, the load being distributed at these two points at each end of the car. By reinforcing this truck-transom in the manner shown and described the same is made exceedingly strong for its weight and serves as an efficient tie for the side frames of the truck, holding said side frames in rigid relation to each other.

By taking the load off of the usual center plates and carrying it at four points through antifriction side bearings the truck is enabled to readily take the curves, which fact prevents derailment and saves excessive wear on the wheel-flanges.

In Figs. 4 and 5 I have shown a modified form of my invention in which the truck-transom is extended outwardly beyond the side frames or the arch-bars of the truck and provided with an additional set of vertical guiding-ribs 15^a. The body-transom is provided with two top bearing members 4^a, which cooperate with antifriction side bearings 18^a. There is a single casting 16^a for supporting these side bearings, said casting being in the form of a yoke and being spring supported, as above described. In this manner the car-body is supported at eight points, the points of support at the four corners thereof being on both sides of the side truck-frames, whereby the load applied to each side truck-frame is direct, being distributed equally on both sides thereof instead of only to one side, as in the case of the construction shown in Figs. 1, 2, and 3. In the construction shown in Figs. 4 and 5 it will be obvious that the body-transom need not be continuous from side frame to side frame of the truck, as other means may be employed for tying said side frames together. As a matter of convenience, however, I prefer to make the truck-transom in the construction shown in Figs. 4 and 5 continuous, so as to reduce the number of pieces entering into the truck construction.

I am aware that many minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a car-truck, an arched cast-metal transom comprising a portion extending across the truck and forming spring-supports, springs thereupon, side-bearing supports resting on said springs and guided by upward extensions of said transom so as to be independently movable thereupon and antifrictional devices carried by said side-bearing supports; substantially as described.

2. In a car-truck, an arched cast-metal transom comprising a connecting portion extending across the truck, spring-seats upon the ends thereof, springs on said seats, side-bearing supports resting on said springs, integral

webs forming guides on said transom for said side-bearing supports, said bearing-supports being independently movable, and antifriction devices carried thereby; substantially as described.

3. In a car-truck, a transom formed of one piece of metal and comprising spring-seats, connections therefor extending across the truck, side bearings at each side of said spring-seats in combination with springs in said seats, side-bearing supports on said springs, and antifrictional devices carried thereby; substantially as described.

4. In a car-truck, a cast-metal transom composed of a horizontal web member, vertical flanges for strengthening the same, a spring-seat, and reinforcing-flanges under the spring-seats, said reinforcing-flanges being recessed to receive the bottom arch-bars; substantially as described.

5. In a car-truck, a cast-metal transom composed of an arched horizontal web 10, depending flanges 11, reinforcing-flanges 12 and 13, vertical flanges 14 rising from the ends of the transom, and vertical guiding-ribs 16, all of said parts being made in one piece; substantially as described.

6. In a car-truck, the combination with side frames, of a support provided with vertical guideways, a casting vertically movable in said ways, and side bearings carried by said casting, said side bearings being located on each side of the side frame of the truck; substantially as described.

7. In a car-truck, the combination with a side frame carrying a support provided with vertical guideways, of a spring-supported casting movable vertically in said guideways, and side bearings carried by said casting and arranged on each side of the truck side frame; substantially as described.

8. In a car-truck, the combination with side frames, of a transom or truck-bolster extending outwardly therebeyond and provided with a plurality of guiding-ribs, castings extending on each side of the truck side frames and movable vertically between said guiding-ribs, springs for supporting said castings, and side bearings carried by said castings on each side of the side frame of the truck; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 2d day of June, 1902.

JOHN C. WANDS.

Witnesses:

LENORE J. WILSON,
GEORGE BAKEWELL.